

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A form-and-seal unit for producing aseptic sealed packages of a pourable food product from a tube of packaging material filled with said food product and fed along a vertical path, said unit comprising a fixed structure; and forming means which interact cyclically with said tube of packaging material, and in turn comprise at least two pairs of jaws having sealing means for sealing the tube of packaging material and movable between an open position and a closed position in which said sealing means cooperate with said tube of packaging material, and respective ~~pairs of~~ forming flaps carried by respective said jaws and having respective half-shell forming portions, said forming flaps being movable between a withdrawn position, in which they do not cooperate with said tube, and a forward position, in which said respective half-shell forming portions surround said tube, in said closed position of the relative jaws, to form a cavity of predetermined volume; said unit comprising fixed cam means; and cam-follower means carried by said forming flaps and cooperating with said fixed cam means to control the movement of said forming flaps from said withdrawn position to said forward position; said forming flaps being selectable from a number of types of forming flaps differing in size and for producing respective types of packages; and in that said fixed cam means define different work profiles selectively engageable by said cam-follower means, depending on the type of forming flaps used.

2. (Previously Presented) A unit as claimed in Claim 1, wherein said fixed cam means comprise two cam control assemblies located on opposite sides of said forming means; said cam-follower means being defined, for each forming flap, by two cam-follower rollers extending laterally from the respective said forming flap and cooperating with respective said cam control assemblies.

3. (Previously Presented) A unit as claimed in Claim 2, wherein said cam control assemblies each comprise a top cam for controlling the approach movement of said forming flaps towards said tube of packaging material, and two bottom cams for controlling the closing movement of said forming flaps about said tube of packaging material.

4. (Previously Presented) A unit as claimed in Claim 3, wherein said different work profiles of said cam control means are defined by said top cams.

5. (Previously Presented) A unit as claimed in Claim 4, wherein said top cams are defined by flat plates; said different work profiles being defined by lateral edge portions of said top cams offset in the direction of the thickness of the top cams.

6. (Previously Presented) A unit as claimed in Claim 5, wherein said cam-follower rollers of the different types of forming flaps are different distances apart, so as to cooperate with respective work profiles of said top cams.

7. (Previously Presented) A unit as claimed in Claim 3, wherein said bottom cams have common work profiles for different types of forming flaps.

8. (Previously Presented) A unit as claimed in Claim 4, wherein said bottom cams have common work profiles for different types of forming flaps.

9. (Previously Presented) A unit as claimed in Claim 5, wherein said bottom cams have common work profiles for different types of forming flaps.

10. (Previously Presented) A unit as claimed in Claim 6, wherein said bottom cams have common work profiles for different types of forming flaps.

11. (New) A form-and-seal unit for producing aseptic sealed packages of a pourable food product from a tube of packaging material filled with the food product and fed along a vertical path, the unit comprising:

a fixed structure comprising two spaced apart guides symmetrically positioned relative to a vertical longitudinal plane;

two forming assemblies movable along the spaced apart guides;

each forming assembly comprising a pairs of jaws having sealing means for sealing the tube of packaging material and movable between an open position and a closed position in which the sealing means cooperate with the tube of packaging material;

a forming flap carried by each jaw and having a respective half-shell forming portion, the forming flaps of each pair of jaws being movable between a withdrawn position in which they do not cooperate with the tube and a forward position in which the respective half-shell forming portions surround the tube in the closed position of the respective jaws to form a cavity of predetermined volume;

a fixed cam;

cam-followers carried by the forming flaps and engageable with respective work profiles of the fixed cam to control movement of the forming flaps from the withdrawn position to the forward position;

the work profiles of the fixed cam comprising a first pair of work profiles and a second pair of work profiles, the first and second pairs of work profiles being spaced different distances from the vertical longitudinal plane, with the first pair of work profiles being engageable by the cam followers of two forming flaps of a first type to control approach movement of the two forming flaps of the first type towards the tube and the second pair of work profiles being engageable by the cam followers of two forming flaps of a second type, which differ in size relative to the two forming flaps of the first type, to control approach movement of the two forming flaps of the second type towards the tube.

12. (New) A unit as claimed in Claim 11, wherein the first and second work profiles form a top cam of the fixed cam, and wherein the fixed cam also comprises a bottom cam which controls closing movement of the two forming flaps of the first type and the two forming flaps of the second type.

13. (New) A unit as claimed in Claim 12, wherein the bottom cam comprises a single pair of work profiles which are engageable by the cam followers of the two forming flaps of the first type and the cam followers of the two forming flaps of the second type.

14. (New) A unit as claimed in Claim 11, wherein the fixed cam comprises a plate, and the first and second work profiles are positioned at a top portion of the plate.

15. (New) A form-and-seal unit for producing aseptic sealed packages of a pourable food product from a tube of packaging material filled with the food product and fed along a vertical path, the unit comprising:

- two spaced apart guides;

- two forming assemblies movable along the spaced apart guides;

- each forming assembly comprising a pairs of jaws having sealing means for sealing the tube of packaging material and movable between an open position and a closed position in which the sealing means cooperate with the tube of packaging material;

- a forming flap carried by each jaw and having a respective half-shell forming portion, the forming flaps of each pair of jaws being movable between a withdrawn position in which they do not cooperate with the tube and a forward position in which the respective half-shell forming portions surround the tube in the closed position of the respective jaws to form a cavity of predetermined volume;

- a fixed cam formed as a flat plate;

cam-followers carried by the forming flaps and engageable with respective work profiles of the fixed cam to control movement of the forming flaps from the withdrawn position to the forward position;

the work profiles of the fixed cam comprising a first pair of work profiles and a second pair of work profiles which differ in size from one another, the first pair of work profiles being offset from the second pair of work profiles in a thickness direction of the flat plate forming the fixed cam, with the first pair of work profiles being engageable by the cam followers of two forming flaps of a first type to control approach movement of the two forming flaps of the first type towards the tube and the second pair of work profiles being engageable by the cam followers of two forming flaps of a second type, which differ in size relative to the two forming flaps of the first type, to control approach movement of the two forming flaps of the second type towards the tube.

16. (New) A unit as claimed in Claim 15, wherein the first and second work profiles form a top cam of the fixed cam, and wherein the fixed cam also comprises a bottom cam which controls closing movement of the two forming flaps of the first type and the two forming flaps of the second type.

17. (New) A unit as claimed in Claim 16, wherein the bottom cam comprises a single pair of work profiles which are engageable by the cam followers of the two forming flaps of the first type and the cam followers of the two forming flaps of the second type.

18. (New) A unit as claimed in Claim 15, wherein the first and second work profiles are positioned at a top portion of the plate forming the fixed cam.

19. (New) A form-and-seal unit for producing aseptic sealed packages of a pourable food product from a tube of packaging material filled with the food product and fed along a vertical path, the unit comprising a fixed structure; and forming means which interact cyclically with the tube of packaging material, and in turn comprise at least two pairs of jaws having sealing means for sealing the tube of packaging material and movable between an open position and a closed position in which the sealing means cooperate with the tube of packaging material, and respective forming flaps carried by respective the jaws and having respective half-shell forming portions, the forming flaps being movable between a withdrawn position, in which they do not cooperate with the tube, and a forward position, in which the respective half-shell forming portions surround the tube, in the closed position of the relative jaws, to form a cavity of predetermined volume; a pair of fixed cams located on opposite sides of the forming means; and a pair of cam-followers carried by each of the forming flaps and cooperating with the fixed cams to control the movement of the forming flaps from the withdrawn position to the forward position; the forming flaps being selectable from a number of types of forming flaps differing in size and for producing respective types of packages; each of the fixed cams possessing a first pair of work profiles engageable by the cam followers of two forming flaps of a first type to control approach movement of the two forming flaps of the first type towards the tube and a different second pair of work profiles engageable by the cam followers of two forming flaps of a second type different from

the forming flaps of the first type to control the approach movement of the two forming flaps of the second type towards the tube.

20. (New) A unit as claimed in Claim 19, wherein the first and second work profiles form a top cam of each fixed cam, and wherein each fixed cam also comprises a bottom cam which controls closing movement of the two forming flaps of the first type and the two forming flaps of the second type.